

Degree

Given an undirected graph of n vertices and m edges. Output the degree of vertices.

Input

The first line contains two integers n and m ($1 \leq n \leq 1000$, $0 \leq m \leq \min(10^5, n*(n-1)/2)$)

Each line in the next m lines contains two integers u, v ($1 \leq u, v \leq n$) - representing the connecting edge from u to v .

Output

A line of n numbers: $\text{deg}[1], \text{deg}[2] \dots \text{deg}[n]$, respectively, is the degree of vertices $1, 2 \dots n$.

Example

Input:

2 1

1 2

Output:

1 1